

10/678,872

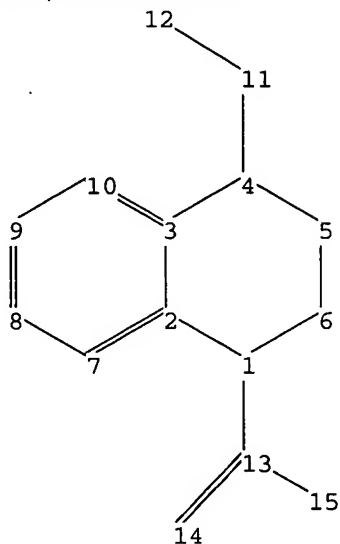
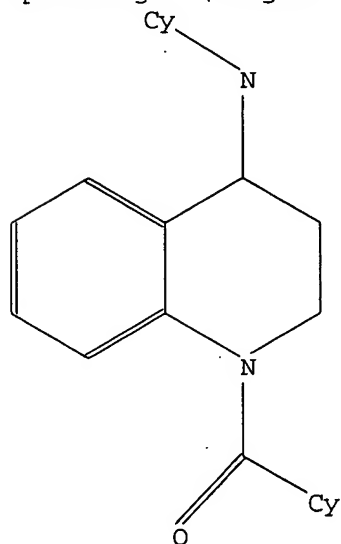
\*\*\*\*\* STN Columbus \*\*\*\*\*

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chain nodes :

11 12 13 14 15

ring nodes :

1 2 3 4 5 6 7 8 9 10

chain bonds :

1-13 4-11 11-12 13-14 13-15

ring bonds :

1-2 1-6 2-3 2-7 3-4 3-10 4-5 5-6 7-8 8-9 9-10

exact/norm bonds :

1-2 1-6 1-13 3-4 4-5 4-11 5-6 11-12 13-14 13-15

normalized bonds :

2-3 2-7 3-10 7-8 8-9 9-10

isolated ring systems :

containing 1 :

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom

11:CLASS 12:Atom 13:CLASS 14:CLASS 15:Atom

Generic attributes :

12:

Type of Ring System : Monocyclic

15:

Type of Ring System : Monocyclic

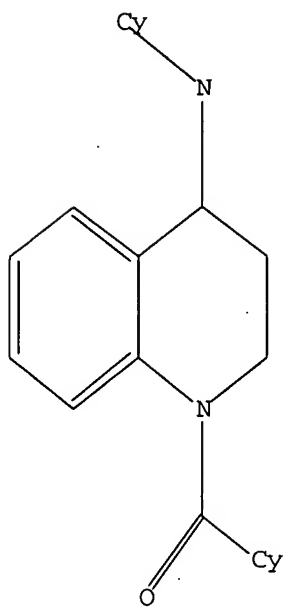
L1 STRUCTURE UPLOADED

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L1 HAS NO ANSWERS

L1 STR

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Structure attributes must be viewed using STN Express query preparation.

=> s l1 full  
L3 822 SEA SSS FUL L1

=> file ca

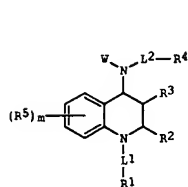
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L4 18 L3

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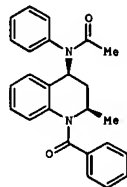
10/678,872

L4 ANSWER 1 OF 18 CA COPYRIGHT 2005 ACS on STN  
 142:176711 CA  
 TITLE: N-Substituted 4-aminotetrahydroquinolines with CRTH2 and PGD2 receptor activity, and their preparation, pharmaceutical compositions, and use as asthma and allergic inflammation modulators  
 INVENTOR(S): Inman, Wayne D.; Liu, Jiven; Medina, Julio C.; Miao, Shichang; Tang, Hua Lucy  
 PATENT ASSIGNEE(S): Tularik Inc., USA  
 SOURCE: PCT Int. Appl., 73 pp.  
 CODEN: P1XXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE       |
|---|------|----------|-----------------|------------|
| WO 2005007094   | A2   | 20050127 | WO 2004-US21735 | 20040707   |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW |      |          |                 |            |
| RV: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, EG, KZ, MD, RU, TJ, TH, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CH, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  |      |          |                 |            |
| US 2005038070   | A1   | 20050217 | US 2004-887341  | 20040707   |
| PRIORITY APPL. INFO.: MARPAT 142:176711   |      |          | US 2003-485978P | P 20030709 |
| OTHER SOURCE(S): GI   |      |          |                 |            |



I



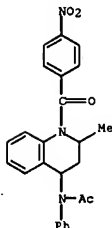
II

AB Comps., pharmaceutical comps. and methods are provided that are useful in the treatment of inflammatory and immune-related diseases and conditions. In particular, the invention provides comps. which modulate

L4 ANSWER 1 OF 18 CA COPYRIGHT 2005 ACS on STN (Continued)  
 the function and/or expression of proteins involved in atopic diseases, inflammatory conditions and cancer. The subject comps. are tetrahydroquinoline derivs. I [wherein: V = aryl, heteroaryl, (C1-C5)alkyl, or cyclo(C3-C5)alkyl; L1 = CO, SO2, or (C1-C4)alkylene; L2 = single bond, CO, or SO2; R1 = (C1-C5)alkyl, aryl, aryl(C1-C4)alkyl, aryl(C1-C4)alkoxy, aryl(C1-C4)alkenyl, or heteroaryl; R2 and R3 = (independently) H or (C1-C5)alkyl; R4 = (C1-C5)alkyl, aryl(C1-C4)alkyl, cyclo(C3-C5)alkyl (C1-C4)alkyl, halo(C1-C4)alkyl, (C1-C4)alkoxy(C1-C4)alkyl, amino(C1-C4)alkyl, (C1-C4)alkylamino(C1-C4)alkyl, di(C1-C4)alkylamino(C1-C4)alkyl, carbonyl(C1-C4)alkyl, (C1-C4)alkoxycarbonyl(C1-C4)alkyl, carbamoyl(C1-C4)alkyl and carbonyl(C2-C4)alkenyl; each R5 = (independently) halo, (C1-C8)alkyl, (C1-C4)alkoxy, thio(C1-C4)alkoxy, amino, (C1-C4)alkylamino, di(C1-C4)alkylamino, halo(C1-C4)alkyl, halo(C1-C4)alkoxy, cyano, nitro, CO2R', CONR'R'', C(O)R', OC(O)R', OC(O)NR'R'', NR'(C(O)R'), NR'(C(O)NR'R''), NR'C(NH2)NR'', S(O)R', -SO2R', -SO2NR'R'', N3, or CH(Ph)2; two adjacent R5 may form a 5-, 6-, 7-, or 8-membered fused ring contg. the attached C atoms and 0-2 addnl. N/O/S heteroatoms; R', R'', and R''' = (independently) H, (C1-C5)alkyl, aryl, aryl(C1-C4)alkyl, or heteroaryl; optionally, when R' and R'' or R'' and R''' are attached to the same N atom, then R' and R'' or R'' and R''' may be combined to form a 5-, 6-, 7- or 8-membered ring contg. the attachment N atom and 0-2 addnl. N/O/S heteroatoms; m is 0-4; with approx. 56 specific exceptions when claimed per se]. Several synthetic examples are given. For instance, cyclocondensation of aniline with acetaldehyde gave a mixt. of cis-2-methyl-4-(phenylamino)-1,2,3,4-tetrahydroquinoline and its trans isomer. This compd. underwent a sequence of N-benzylation with PhCOCl, deprotonation with NaH in THF, and N-acetylation with AcBr, to give invention compd. II. This compd. had an IC50 of < 0.04 μM in a human CRTH2 binding assay.

IT 296272-48-5P, 1-(4-Nitrobenzoyl)-2-methyl-4-(N-acetyl-N-phenylamino)-1,2,3,4-tetrahydroquinoline  
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (drug candidate; preparation of N-substituted aminotetrahydroquinolines with CRTH2 and PGD2 receptor activities as asthma and allergic inflammation modulators)  
 RN 296272-48-5 CA  
 CN Acetamide, N-phenyl-N-[1,2,3,4-tetrahydro-2-methyl-1-(4-nitrobenzoyl)-4-quinolinyl]- (9CI) (CA INDEX NAME)

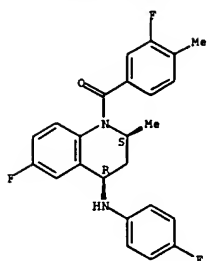
L4 ANSWER 1 OF 18 CA COPYRIGHT 2005 ACS on STN (Continued)



L4 ANSWER 2 OF 18 CA COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 141:171220 CA  
 TITLE: Highly Flexible Ligand Binding Pocket of Ecdysone Receptor: A Single Amino Acid Change Leads to Discrimination Between two Groups of nonsteroidal Ecdysone Agonists  
 AUTHOR(S): Kumar, Mohan B.; Potter, David W.; Hormann, Robert E.; Edwards, Angela; Tice, Colin M.; Smith, Howard C.; DiPlato, Martha A.; Polley, Mitch; Lawless, Michael; Wolohan, Philippa R. N.; Kethidi, Sangeetha R.; Palli, Subba R.  
 CORPORATE SOURCE: RheoGene Inc., Norristown, PA, 19403, USA  
 SOURCE: Journal of Biological Chemistry (2004), 279 (26), 27211-27218  
 CODEN: JBCHA3; ISSN: 0021-9258  
 PUBLISHER: American Society for Biochemistry and Molecular Biology  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB The insect steroid hormone 20-hydroxyecdysone works through a ligand-activated nuclear receptor, the ecdysone receptor (EcR), which plays critical roles in insect development and reproduction. The EcR has been exploited to develop insecticides to control pests and gene switches for gene regulation. Recently reported crystal structures of the EcR protein show different but partially overlapping binding cavities for ecdysteroid (ECD) and diacylhydrazine (DAH) ligands, providing an explanation for the differential activity of DAH ligands in insects. 1-Acroyl-4-(arylamino)-1,2,3,4-tetrahydroquinoline (THQ) ligands were recently discovered as ecdysone agonists. Mutagenesis of the EcR (from Choristoneura fumiferana, CfEcR) ligand binding domain followed by screening in a reporter assay led to the identification of CfEcR mutants, which responded well to THQ ligands but poorly to both ECD and DAH ligands. These mutants were further improved by introducing a second mutation, A110P, which was previously reported to cause ECD insensitivity. Testing of these V128F/A110P and V128Y/A110P mutants in a C57BL/6 mouse model coactivator interaction assay and in insect cells showed that this mutant EcR is activated by THQ ligands but not by ECD or DAH ligands. The CfEcR and its V128F/A110P mutant were used to demonstrate simultaneous regulation of two reporter genes using THQ and DAH ligands.  
 IT 637005-72-2, RG 120499  
 RL: BSU (Biological study, unclassified); BIOL (Biological study) (a single amino acid change in the ligand binding domain of the ecdysone receptor leads to discrimination between two groups of nonsteroidal ecdysone agonists)  
 RN 637005-72-2 CA  
 CN 4-Quinolamine, 6-fluoro-1-(3-fluoro-4-methylbenzoyl)-N-(4-fluorophenyl)-1,2,3,4-tetrahydro-2-methyl-, (2R,4S)-rel- (9CI) (CA INDEX NAME)  
 Relative stereochemistry.

10/678,872

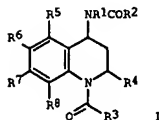
L4 ANSWER 2 OF 18 CA COPYRIGHT 2005 ACS on STN (Continued)



REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 18 CA COPYRIGHT 2005 ACS on STN  
 141:106384 CA  
 ACCESSION NUMBER: Preparation of acylaminoquinolines as CRTH2 antagonists  
 TITLE: Kuhn, Cyrille; Feru, Frederic; Bazin, Marc; Awad, Mohamed; Goldstein, Steven Wayne  
 INVENTOR(S): Warner-Lambert Company LLC, USA  
 PATENT ASSIGNEE(S): Eur. Pat. Appl., 77 pp.  
 SOURCE: CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|---|------|----------|-----------------|----------|
| EP 1435356  | A1   | 20040707 | EP 2003-290025  | 20030106 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK |      |          |                 |          |
| PRIORITY APPL. INFO.: EP 2003-290025 20030106   |      |          |                 |          |
| OTHER SOURCE(S): MARPAT 141:106384  |      |          |                 |          |
| GI  |      |          |                 |          |

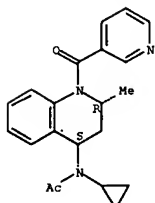


AB Quinolines I [R1 = alkyl, alkenyl, alkynyl, aryl, heteroaryl, cycloalkyl, aralkyl, heteroaralkyl, cycloalkylalkyl; R2 = (un)substituted alkyl; R3 = cycloalkyl, (un)substituted aryl, heterocyclyl, aralkyl, heterocyclylalkyl; R4 = H, alkyl; R5-R8 = H, (un)substituted alkyl, NO2, CN, SO2Me, (un)substituted SO2NH2, OH, SH, CO2H, CONH2, NH2, NHSO2H, NHCHO, acyl] were prepared for use as CRTH2 antagonists with IC50 < 5µM. Thus, cis-N-(2-methyl-1,2,3,4-tetrahydroquinolin-4-yl)-N-phenylacetamide was prepared from 4-chloroquinoline in 6 steps and was treated with 2-thiophenecarbonyl chloride to give I [R1 = Ph, R2, R4 = Me, R3 = 2-thienyl, R5-R8 = H].

IT 681828-40-0P  
 RL: PAC (Pharmacological activity); PEP (Physical, engineering or chemical process); PUR (Purification or recovery); PYP (Physical process); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)  
 (preparation of acylaminoquinolines as CRTH2 antagonists)

RN 681828-40-0 CA  
 CH Acetamide, N-cyclopropyl-N-[(2R,4S)-1,2,3,4-tetrahydro-2-methyl-1-(3-pyridinylcarbonyl)-4-quinolinyl]-, rel-(+)- (9CI) (CA INDEX NAME)

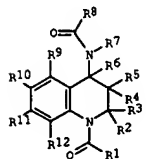
L4 ANSWER 3 OF 18 CA COPYRIGHT 2005 ACS on STN (Continued)  
 Rotation (+). Absolute stereochemistry unknown.



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 18 CA COPYRIGHT 2005 ACS on STN  
 141:54208 CA  
 ACCESSION NUMBER: Preparation of aminotetrahydroquinolines as antiinflammatory agents  
 TITLE: Kotera, Osamu; Oshima, Etsuo; Ueno, Kimihisa; Ikemura, Toshihide; Manabe, Haruhiko; Sawada, Masatsugu; Mimura, Hideki; Miyaji, Hiromasa; Nonaka, Hiromi  
 INVENTOR(S): Kyowa Hakko Kogyo Co., Ltd., Japan  
 PATENT ASSIGNEE(S): PCT Int. Appl., 111 pp.  
 SOURCE: CODEN: PIXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|---|------|----------|-----------------|----------|
| WO 2004052863   | A1   | 20040624 | WO 2003-JP15608 | 20031205 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW |      |          |                 |          |
| RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CI, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  |      |          |                 |          |
| PRIORITY APPL. INFO.: JP 2002-354511 A 20021206   |      |          |                 |          |
| OTHER SOURCE(S): MARPAT 141:54208   |      |          |                 |          |
| GI  |      |          |                 |          |

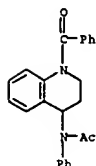


AB Title compds. I [R1 = H, (un)substituted alkyl, (un)substituted aryl, etc.; R2, R3 = H, (un)substituted alkyl, etc.; R4, R5 = H, halo, etc.; R6 = H, etc.; R7 = (un)substituted cycloalkyl, (un)substituted aryl, etc.; R8 = (un)substituted alkyl, (un)substituted aryl, etc.; R9, R10, R11, R12 = H, halo, (un)substituted alkyl, etc.] were prepared. Thus, antigen-induced infiltration by eosinophils was inhibited by 48.6% by cis-I [R1 = R7 = Ph; R2 = CH3; R3 = R4 = R5 = R6 = R9 = R10 = R11 = R12 = H] at 100 mg/kg in mice. Formulations are given.

IT 681828-45-5P  
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

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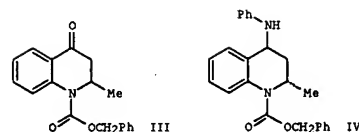
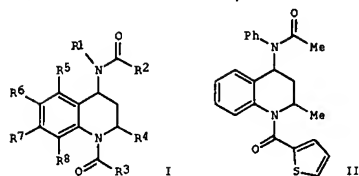
L4 ANSWER 4 OF 18 CA COPYRIGHT 2005 ACS on STN (Continued)  
 (prepn. of aminotetrahydroquinolines as antiinflammatory agents)  
 RN 681028-45-5 CA  
 CN Acetamide, N-(1-benzoyl-1,2,3,4-tetrahydro-4-quinolinyl)-N-phenyl- (9CI)  
 (CA INDEX NAME)



L4 ANSWER 5 OF 18 CA COPYRIGHT 2005 ACS on STN  
 140:375082 CA  
 ACCESSION NUMBER:  
 TITLE: A preparation of tetrahydroquinoline derivatives as CRTH2 antagonists  
 INVENTOR(S): Kuhn, Cyrille; Feru, Frederic; Bazin, Marc; Awad, Mohamed; Goldstein, Steven Wayne  
 PATENT ASSIGNEE(S): Warner-Lambert Company LLC, USA  
 SOURCE: Eur. Pat. Appl., 63 pp.  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

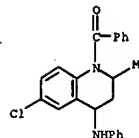
| PATENT NO.  | KIND | DATE              | APPLICATION NO. | DATE       |
|---|------|-------------------|-----------------|------------|
| EP 1413306  | A1   | 20040428          | EP 2002-292606  | 20021021   |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, WK, CY, AL, TR, BG, CZ, ES, SK   |      |                   |                 |            |
| WO 2004035543   | A1   | 20040429          | WO 2003-184505  | 20031010   |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZH, ZW |      |                   |                 |            |
| RW: GH, GM, KE, LS, MW, ME, SD, SL, SZ, TZ, UG, ZH, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  |      |                   |                 |            |
| US 2004132772   | A1   | 20040708          | US 2003-688566  | 20031017   |
| PRIORITY APPL. INFO.:   |      |                   | EP 2002-292606  | A 20021021 |
|   |      |                   | US 2002-434896P | P 20021219 |
| OTHER SOURCE(S):  |      | MARPAT 140:375082 |                 |            |
| GI  |      |                   |                 |            |

L4 ANSWER 5 OF 18 CA COPYRIGHT 2005 ACS on STN (Continued)



AB The invention relates to a preparation of tetrahydroquinoline derivs. of formula I [wherein: R1 is H, C1-C4 alkyl, or C2-C4 alken/ynyl, etc.; R2 is C1-C4 (un)substituted alkyl; R3 is C3-C6 cycloalkyl or -A-R9; R4 is H or C1-C4 alkyl; R5, R6, R7, and R8 are independently selected from halogen, NO2, CN, SO2Me, or (un)substituted C1-C4 alkyl, etc.; A is a bond, C1-C3 alkylene, or C2-C3 alkenylene; R9 is C6-C12 aryl or heterocycle], their use as medicaments and pharmaceutical compns. containing them. The invention compds. were tested as CRTH2 receptor antagonists (IC50 < 5µM). For instance, tetrahydroquinoline derivative II was prepared from the prepared quinoline III via imination, stereoselective reduction of the imine bond, N-acetylation of the obtained quinoline derivative IV, N-cleavage at the quinoline ring, and subsequent addition of 2-thiophenecarbonyl chloride (example 1).  
 IT 683768-44-7P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (intermediate: preparation of tetrahydroquinoline derivs. as CRTH2 antagonists)  
 RN 683768-44-7 CA  
 CN 4-Quinolinamine, 1-benzoyl-6-chloro-1,2,3,4-tetrahydro-2-methyl-N-phenyl- (9CI) (CA INDEX NAME)

L4 ANSWER 5 OF 18 CA COPYRIGHT 2005 ACS on STN (Continued)

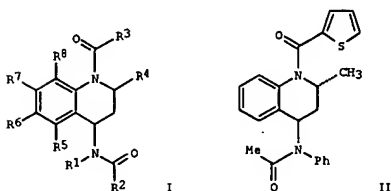


REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 18 CA COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 140:357218 CA  
 TITLE: Preparation of tetrahydroquinoline derivatives as CRTh2 antagonists  
 INVENTOR(S): Awad, Mohamed Mohamed Ali; Bazin, Marc; Feru, Frederic; Goldstein, Steven Wayne; Kuhn, Cyrille Francois  
 PATENT ASSIGNEE(S): Warner-Lambert Company LLC, USA  
 SOURCE: PCT Int. Appl., 124 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|---|------|----------|-----------------|----------|
| WO 2004035543   | A1   | 20040429 | WO 2003-1B4505  | 20031010 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW |      |          |                 |          |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  |      |          |                 |          |
| EP 1413306  | A1   | 20040428 | EP 2002-292606  | 20021021 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK   |      |          |                 |          |
| PRIORITY APPL. INFO.: EP 2002-292606 A 20021021<br>US 2002-434896P P 20021219   |      |          |                 |          |

OTHER SOURCE(S): HARPAT 140:357218  
 GI

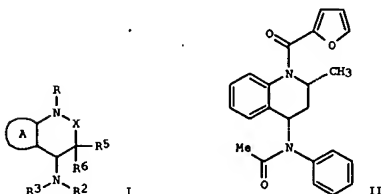


AB Title comps. I [R1 = H, alk(en/yn)yl, etc.; R2 = alkyl; R3 = cycloalkyl, etc.; R4 = H, alkyl; R5 = H, alkyl, etc.] are prepared For instance,

L4 ANSWER 7 OF 18 CA COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 140:339203 CA  
 TITLE: Preparation of tetrahydroquinolinyl PGD2 receptor antagonists for the treatment of inflammatory diseases  
 INVENTOR(S): Ghosh, Shomir; Elder, Amy M.; Carson, Kenneth G.; Sprott, Kevin; Harrison, Sean  
 PATENT ASSIGNEE(S): Millennium Pharmaceuticals, Inc., USA  
 SOURCE: PCT Int. Appl., 257 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|---|------|----------|-----------------|----------|
| WO 2004032848   | A2   | 20040422 | WO 2003-US31542 | 20031003 |
| WO 2004032848   | A3   | 20040715 |                 |          |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW |      |          |                 |          |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  |      |          |                 |          |
| US 2004082609   | A1   | 20040429 | US 2003-678872  | 20031003 |
| PRIORITY APPL. INFO.: US 2002-416501P P 20021004  |      |          |                 |          |

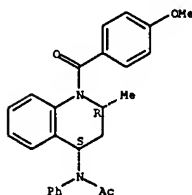
OTHER SOURCE(S): HARPAT 140:339203  
 GI



AB Title comps. I [A = (un)substituted monocyclic aromatic ring; R = X1R1; R2 = X2R2; R3 = (un)substituted cycloaliph. group, etc.; X = CO, bivalent alkyl; X1-2 = bond, SO, SO2, CO, etc.; R1 = H, cycloaliph. group, aromatic group, etc. provided that when X1 = bond, SO or SO2, R1 is not equal H; R4 = H, aliphatic group, etc.; R5-6 = H, alkyl] are prepared For instance, cis-4-phenylamino-2-methyl-1,2,3,4-tetrahydroquinoline (preparation given)

L4 ANSWER 6 OF 18 CA COPYRIGHT 2005 ACS on STN (Continued)  
 2-methyl-4-phenylamino-3,4-dihydro-2H-quinolin-1-carboxylic acid benzyl ester (prepn. given) is reduced to the corresponding cis-quinoline (HOAc, NaOH(OAc)3), deprotected (EtOH, NH4O2CH, Pd/C) and the resulting intermediate acylated with 2-thiophenecarbonyl chloride (dioxane, i-Pr2NEt, 3 h) to give II. Invention compds., e.g. II, are tested as CRTh2 receptor antagonists, IC50 < 5µM. I are useful for the treatment of inflammatory disorders.  
 IT 679807-25-1P, cis-4-(N-Phenyl-N-acetylamino)-1-(4-Methoxybenzoyl)-2-methyl-1,2,3,4-tetrahydroquinoline  
 RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses) (tetrahydroquinoline derivs. as crth2 antagonists)  
 RN 679807-25-1 CA  
 CN Acetamide, N-phenyl-N-[(2R,4S)-1,2,3,4-tetrahydro-1-(4-methoxybenzoyl)-2-methyl-4-quinolinyl]-, rel- (9CI) (CA INDEX NAME)

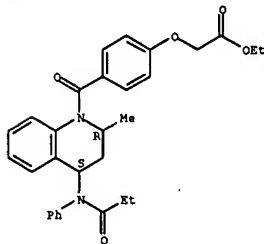
Relative stereochemistry.



REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 7 OF 18 CA COPYRIGHT 2005 ACS on STN (Continued)  
 acylated with 2-furoyl chloride (CH2Cl2, i-Pr2NEt) and the resulting intermediate acetylated (CH2Cl2, i-Pr2NEt, AcCl) to give II. Comps. I inhibit binding of PGD2 to the CRTh2 receptor; selected examples have Ki < 10 µM. Also disclosed is the use of I for inhibiting the G-protein coupled receptor referred to as chemoattractant receptor-homologous mol. expressed on CRTh2 for the treatment of inflammatory disorders.  
 IT 679806-12-3P, cis-[4-(2-Methyl-4-(N-phenyl-N-propionylamino)-3,4-dihydro-2H-quinolin-1-carbonyl)phenoxyl]acetic acid ethyl ester  
 RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses) (PGD2 receptor antagonists for treatment of inflammatory diseases)  
 RN 679806-12-3 CA  
 CN Acetic acid, [4-[[[(2R,4S)-3,4-dihydro-2-methyl-4-[(1-oxopropyl)phenylamino]-1(2H)-quinolinyl]carbonyl]phenoxy]-, ethyl ester, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



10/678,872

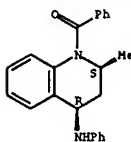
L4 ANSWER 9 OF 18 CA COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 140:35993 CA  
 TITLE: Tetrahydroquinolines for modulating the expression of exogenous genes via an ecdysone receptor complex  
 INVENTOR(S): Michelotti, Enrique L.; Tice, Colin M.; Palli, Subba Reddy; Thompson, Christine S.; Dhadialla, Tarlochan S.  
 PATENT ASSIGNEE(S): RheoGene, Inc., USA  
 SOURCE: PCT Int. Appl., 129 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|---|------|----------|-----------------|----------|
| WO 2003105849   | A1   | 20031224 | WO 2003-US18796 | 20030613 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GR, GM, GU, HA, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW |      |          |                 |          |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CH, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  |      |          |                 |          |
| EP 1513530  | A1   | 20050316 | EP 2003-737088  | 20030613 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK   |      |          |                 |          |
| PRIORITY APPL. INFO.:<br>US 2002-388353P P 20020613<br>US 2003-460820 A 20030612<br>WO 2003-US18796 W 20030613  |      |          |                 |          |

OTHER SOURCE(S): MARPAT 140:35993  
 AB This invention relates to a method to modulate exogenous gene expression in which an ecdysone receptor complex comprising: a DNA binding domain; a ligand binding domain; a transactivation domain; and a ligand is contacted with a DNA construct comprising: the exogenous gene and a response element; wherein the exogenous gene is under the control of the response element and binding of the DNA binding domain to the response element in the presence of the ligand results in activation or suppression of the gene. The ligands comprise a class of 4-tetrahydroquinolines.  
 IT 26343-39-5P  
 RI: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (tetrahydroquinolines for modulating the expression of exogenous genes via an ecdysone receptor complex)  
 RN 26343-39-5 CA  
 CN 4-Quinolinamine, 1-benzoyl-1,2,3,4-tetrahydro-2-methyl-N-phenyl-, (2R,4S)-rel- (9CI) (CA INDEX NAME)

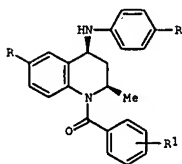
Relative stereochemistry.

L4 ANSWER 8 OF 18 CA COPYRIGHT 2005 ACS on STN (Continued)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

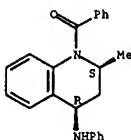
L4 ANSWER 9 OF 18 CA COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 139:245878 CA  
 TITLE: Synthesis and SAR of cis-1-benzoyl-1,2,3,4-tetrahydroquinoline ligands for control of gene expression in ecdysone responsive systems  
 AUTHOR(S): Smith, Howard C.; Cavanaugh, Caitlin K.; Friz, Jennifer L.; Thompson, Christine S.; Sagers, Jessica A.; Michelotti, Enrique L.; Garcia, Javier; Tice, Colin M.  
 CORPORATE SOURCE: RheoGene, Spring House, PA, 19477-0949, USA  
 SOURCE: Bioorganic & Medicinal Chemistry Letters (2003), 13(11), 1943-1946  
 CODEN: BMCLB8; ISSN: 0960-894X  
 PUBLISHER: Elsevier Science B.V.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 139:245878  
 GI



AB Cis-1-Benzoyl-2-methyl-4-(phenylamino)-1,2,3,4-tetrahydroquinolines 1 [R = H, F, Me; R1 = H, 2-F, 2-Me, 2-MeO, 2-F3C, 3-F, 3-Me, 3-MeO, 3-F3C, 4-Cl, 4-Me, 4-MeO, 4-F3C] were prepared 1 were assayed for their ability to cause expression of a reporter gene downstream of an ecdysone response element in a mammalian cell line engineered to express the ecdysone receptor from Aedes aegypti. In general, 1 [R = H, F] with small lipophilic substituents at the meta and para-positions of the benzoyl ring were the most potent.  
 IT 26343-39-5P  
 RI: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)  
 (synthesis and SAR of cis-1-benzoyl-1,2,3,4-tetrahydroquinoline ligands for control of gene expression in ecdysone responsive systems)  
 RN 26343-39-5 CA  
 CN 4-Quinolinamine, 1-benzoyl-1,2,3,4-tetrahydro-2-methyl-N-phenyl-, (2R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

L4 ANSWER 9 OF 18 CA COPYRIGHT 2005 ACS on STN (Continued)



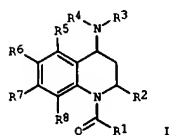
REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

10/678,872

L4 ANSWER 10 OF 18 CA COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 136:177981 CA  
 TITLE: Tetrahydroquinolines, apolipoprotein A-I formation promoters, and pharmaceuticals containing them  
 INVENTOR(S): Abe, Hiroyuki; Nagata, Masafumi; Hata, Takahiro  
 PATENT ASSIGNEE(S): Japan Tobacco, Inc., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 73 pp.  
 CODEN: JJOXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|---------------|------|----------|-----------------|----------|
| JP 2002053557 | A2   | 20020219 | JP 2000-245849  | 20000814 |

PRIORITY APPLN. INFO.: JP 2000-245849 20000814  
 OTHER SOURCE(S): MARPAT 136:177981  
 GI



AB Title promoters, useful as hypolipemics and antiarteriosclerotics, comprise tetrahydroquinolines I (R1 = H, Cl-4 alkoxy, etc.; R2 = Cl-4 alkyl, aryl; R3 = (un)substituted aryl, (un)substituted (condensed) heterocyclyl; R4 = H, Cl-4 alkyl; R5, R6 = H, Cl-4 alkoxy, Cl-4 alkoxy, R7 = H, halo, Cl-4 alkyl, Cl-4 alkoxy, OH), their prodrugs, or salts. 4-Methoxyaniline was cyclocondensed with MeCHO to give 184 cis-2-methyl-6-methoxy-4-[(4-methoxyphenyl)amino]-1,2,3,4-tetrahydroquinoline, which was acetylated by AcCl to give 264 I (R1 = R2 = Me, R3 = 4-methoxyphenyl, R4 = R5 = R7 = R8 = H, R6 = OMe) (II). II (10 μM) in vitro increased production of apolipoprotein A-I in HepG2 cells 168% based on control.

IT 302558-09-4P  
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (preparation of tetrahydroquinolines as apolipoprotein A-I formation promoters)

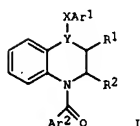
RN 302558-09-4 CA  
 CN 4-Quinolinamine, 1,2,3,4-tetrahydro-2-methyl-N-phenyl-1-(2-pyridinylcarbonyl)-, (2R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

L4 ANSWER 11 OF 18 CA COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 135:313624 CA  
 TITLE: Soluble β-amyloid precursor protein secretion promoters and preparation thereof  
 INVENTOR(S): Kakiyama, Mitsuru; Kato, Kaneyoshi; Mori, Masaaki; Yamashita, Toshiro  
 PATENT ASSIGNEE(S): Takeda Chemical Industries, Ltd., Japan  
 SOURCE: PCT Int. Appl., 156 pp.  
 CODEN: PIAXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

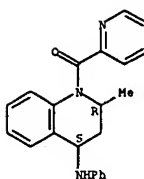
| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|---------------|------|----------|-----------------|----------|
| WO 2001076629 | A1   | 20011018 | WO 2001-JP2961  | 20010405 |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, HR, HE, SN, TD, TG  
 CA 2405163 AA 20010108 CA 2001-2405163 20010405  
 EP 1283055 A1 20030212 EP 2001-919795 20010405  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR  
 JP 2001348332 A2 20011218 JP 2001-108395 20010406  
 US 2003216398 A1 20031120 US 2002-240996 20021004  
 PRIORITY APPLN. INFO.: JP 2000-111912 A 20000407  
 WO 2001-JP2961 W 20010405  
 OTHER SOURCE(S): MARPAT 135:313624  
 GI



AB Disclosed are compds. represented by the following general formula I, salts thereof or prodrugs thereof, use of the same, and a process for producing the same wherein R1, R2 = H, lower alkyl, etc.; the ring A represents an optionally substituted benzene ring; X = O, etc.; and Y represents CH or N. Because of having a potent effect of promoting the secretion of soluble β-amyloid precursor proteins (sAPP), these compds. and the like inhibit functional disorders and apoptosis of cells (in particular, nerve cells) mediated by the thus secreted soluble β-amyloid precursor proteins having a neurotrophic factor-like effect. A compound

L4 ANSWER 10 OF 18 CA COPYRIGHT 2005 ACS on STN (Continued)

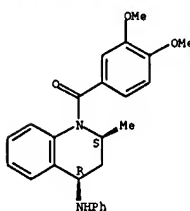


L4 ANSWER 11 OF 18 CA COPYRIGHT 2005 ACS on STN (Continued)  
 cis-(4-anilino-2-methyl-3,4-dihydro-1(2H)-quinolinyl)(2-furyl)methane was prepd., and its promotion effect on sAPP secretion and inhibitory effect on apoptosis in PC12h cells was examd.

IT 367508-91-6P  
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (preparation of tetrahydro quinolinamine derivs. having soluble β-amyloid precursor protein secretion-promoting effects and apoptosis-inhibiting effects)

RN 367508-91-6 CA  
 CN 4-Quinolinamine, 1-(3,4-dimethoxybenzoyl)-1,2,3,4-tetrahydro-2-methyl-N-phenyl-, (2R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

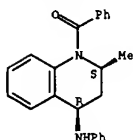


REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

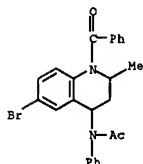


L4 ANSWER 12 OF 18 CA COPYRIGHT 2005 ACS on STN  
 72:31075 CA  
 ACCESSION NUMBER:  
 TITLE: Configuration and conformation of so-called bis(alkylidenearylamines)  
 AUTHOR(S): Funabashi, Masuo; Iwakawa, Masaharu; Yoshimura, Juji  
 CORPORATE SOURCE: Tokyo Inst. Technol., Tokyo, Japan  
 SOURCE: Bulletin of the Chemical Society of Japan (1969), 42(10), 2885-94  
 CODEN: BCSJAB; ISSN: 0009-2673  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 72:31075  
 GI For diagram(s), see printed CA issue.  
 AB The proposed structures of the dimeric products obtained from aliphatic aldehydes and arylamines were examined by IR and NMR spectra. The 1,2,3,4-tetrahydroquinoline structure was ascertained in the case of *acH* or propionaldehyde, and aldolic structure was confirmed in the case of *o* f butyraldehyde. The latter readily isomerizes to the former type in the presence of *HOAc*. Conformational anal. of a racemic pair of the former (*Is-c*: 2,4-disubstituted, *Id*: 2,3,4-trisubstituted) indicated that two isomers of *Is-c* (one has 2-equatorial, 4-quasi-equatorial and the other 2-equatorial, 4-quasi-axial substituents) have a flattened half-chair conformation and two isomers of *Id* (one has 2,3-diequatorial, 4-quasi-equatorial, and the other 2-equatorial, 3-axial, 4-quasi-axial substituents) have a more remarkably flattened half-chair, i.e. a nearly plane structure. The acylation of ring N enhanced this tendency, and one of the 1-acetyl derivs. of *I* was deduced to have a twist half-boat conformation.  
 IT 26343-39-5  
 RL: PRP (Properties)  
 (nuclear magnetic resonance of)  
 RN 26343-39-5 CA  
 CN 4-Quinolamine, 1-benzoyl-1,2,3,4-tetrahydro-2-methyl-N-phenyl-,  
 - (2R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

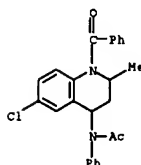


L4 ANSWER 13 OF 18 CA COPYRIGHT 2005 ACS on STN (Continued)



L4 ANSWER 13 OF 18 CA COPYRIGHT 2005 ACS on STN  
 69:27206 CA  
 ACCESSION NUMBER:  
 TITLE: Intramolecular donor-acceptor interaction in 2-ethyl-4-anilino-1,2,3,4-tetrahydroquinoline and its derivatives  
 AUTHOR(S): Zalukaev, L. P.; Spitsyna, L. Ya.  
 CORPORATE SOURCE: Voronezhsk. Univ., Voronezh, USSR  
 SOURCE: Trudy Problemoi Laboratorii Khimii Vysokomolekulyarnykh Soedinenii, Voronezhskii Gosudarstvennyi Universitet (1966), No. 4, 5-16  
 CODEN: TPKARV; ISSN: 0372-0764  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Russian  
 GI For diagram(s), see printed CA issue.  
 AB The activity of the title compds. (I) in chemical reactions is due to the donor-acceptor relation between the aniline and the tetrahydroquinoline groups. The theory was justified by acylation, halogenation, and hydrolysis of several derivs. of *I*. Thus, 2 g. *I* (*R*<sub>1</sub> = *R*<sub>2</sub> = *Ac*, *X*<sub>1</sub> = *X*<sub>2</sub> = *H*, *X*<sub>3</sub> = *Br*) was refluxed 10 hrs. in 12% alc. KOH and diluted with water to give 56% *I* (*R*<sub>1</sub> = *Ac*, *R*<sub>2</sub> = *X*<sub>1</sub> = *X*<sub>2</sub> = *H*, *X*<sub>3</sub> = *Br*, *m*. 119° (EtOH). *I* (6 g.) (*R*<sub>1</sub> = *Ac*, *R*<sub>2</sub> = *X*<sub>1</sub> = *X*<sub>2</sub> = *H*, *X*<sub>3</sub> = *H*) remained unchanged after refluxing in 20% alc. KOH for 50 hrs. *Cl* was passed through a solution of 6 g. *I* (*R*<sub>1</sub> = *R*<sub>2</sub> = *Ac*, *X*<sub>1</sub> = *X*<sub>2</sub> = *X*<sub>3</sub> = *H*) in 100 ml. CCl<sub>4</sub> for 1 hr. Next day the mixture was treated with NaHCO<sub>3</sub> to give 40% *I* (*R*<sub>1</sub> = *R*<sub>2</sub> = *Ac*, *X*<sub>1</sub> = *X*<sub>2</sub> = *H*, *X*<sub>3</sub> = *Cl*), *m*. 171° (EtOH). This was boiled 14 hrs. in 22% alc. KOH to give 1 g. *I* (*R*<sub>1</sub> = *Ac*, *R*<sub>2</sub> = *X*<sub>1</sub> = *X*<sub>2</sub> = *H*, *X*<sub>3</sub> = *Cl*); *R*<sub>2</sub> = *Bz* derivative *m*. 210°. To a mixture of 3 g. *I* (*R*<sub>1</sub> = *R*<sub>2</sub> = *Ac*, *X*<sub>1</sub> = *X*<sub>2</sub> = *X*<sub>3</sub> = *H*), 10 ml. concentrated H<sub>2</sub>SO<sub>4</sub>, and 3 ml. AcOH at 0-5° was added a mixture of 4 ml. concentrated HNO<sub>3</sub> and 4 ml. 70% HNO<sub>3</sub>. After 3 hrs. the solution was diluted with water and NaHCO<sub>3</sub> to precipitate 1.3 g. *I* (*R*<sub>1</sub> = *R*<sub>2</sub> = *Ac*, *X*<sub>1</sub> = *X*<sub>2</sub> = *X*<sub>3</sub> = *H*, *X*<sub>3</sub> = NO<sub>2</sub>), *m*. 173° (EtOH). The previous experiment was repeated with the reaction mixture kept overnight to give *I* (*R*<sub>1</sub> = *R*<sub>2</sub> = *Ac*, *X*<sub>1</sub> = *X*<sub>2</sub> = *H*, *X*<sub>3</sub> = NO<sub>2</sub>), *m*. 234-5°. A mixture of 4 g. *I* (*X*<sub>1</sub> = *X*<sub>2</sub> = *X*<sub>3</sub> = *H*, *R*<sub>1</sub> = *H*, *R*<sub>2</sub> = *Bz*) in 100 ml. CHCl<sub>3</sub> and 2 g. *Br* was allowed to stand 3 hrs. and treated with NaHCO<sub>3</sub> and EtOH to give 2.64 g. *I* (*R*<sub>2</sub> = *Bz*, *R*<sub>1</sub> = *X*<sub>3</sub> = *H*, *X*<sub>1</sub> = *X*<sub>2</sub> = *Br*), *m*. 239° (EtOH). This (1.4 g.) was refluxed 10 hrs. in 15% alc. KOH to give 0.55 g. *I* (*X*<sub>1</sub> = *X*<sub>2</sub> = *Br*, *R*<sub>1</sub> = *R*<sub>2</sub> = *X*<sub>3</sub> = *H*), *m*. 140°, and 0.45 g. of this was kept overnight with 10 ml. AcOH, then boiled 4 hrs. to give 0.42 g. *I* (*X*<sub>1</sub> = *X*<sub>2</sub> = *Br*, *X*<sub>3</sub> = *H*, *R*<sub>1</sub> = *R*<sub>2</sub> = *Ac*), *m*. 163°. *I* (*R*<sub>2</sub> = *X*<sub>1</sub> = *X*<sub>3</sub> = *H*, *X*<sub>2</sub> = *Br*, *R*<sub>1</sub> = *Ac*) (4 g.) refluxed 15 hrs. in 250 ml. 25% H<sub>2</sub>SO<sub>4</sub> and subsequently 5 hrs. in Ac<sub>2</sub>O gave a mixture of *I* (*R*<sub>1</sub> = *R*<sub>2</sub> = *Ac*, *X*<sub>1</sub> = *X*<sub>2</sub> = *Br*, *X*<sub>3</sub> = *H*) and *I* (*R*<sub>1</sub> = *R*<sub>2</sub> = *Ac*, *X*<sub>1</sub> = *X*<sub>2</sub> = *X*<sub>3</sub> = *H*). *I* (*R*<sub>1</sub> = *R*<sub>2</sub> = *Bz*, *X*<sub>1</sub> = *X*<sub>2</sub> = *X*<sub>3</sub> = *H*, *X*<sub>3</sub> = *Br*) (5 g.) treated similarly 10 hrs. gave a mixture of deacylated products, but if treated first with KOH then with 50% H<sub>2</sub>SO<sub>4</sub> it gave 2-methyl-6-bromoquinoline, *m*. 98°; picrate *m*. 217°.  
 IT 13125-49-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 13125-49-0 CA  
 CN Acetamide, N-(1-benzoyl-6-bromo-1,2,3,4-tetrahydro-2-methyl-4-quinolinyl)-N-phenyl- (9CI) (CA INDEX NAME)

L4 ANSWER 14 OF 18 CA COPYRIGHT 2005 ACS on STN  
 67:53250 CA  
 ACCESSION NUMBER:  
 TITLE: Bimolecular alkylidenearylamines. XI. New data on intermolecular donor-acceptor reactions in 4-anilino-2-methyl-1,2,3,4-tetrahydroquinolines  
 AUTHOR(S): Zalukaev, L. P.; Spitsyna, L. Ya.  
 CORPORATE SOURCE: Voronezhsk. Gos. Univ., Voronezh, USSR  
 SOURCE: Zhurnal Organicheskoi Khimii (1967), 3(4), 753-6  
 CODEN: ZORXAE; ISSN: 0514-7492  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Russian  
 GI For diagram(s), see printed CA issue.  
 AB cf. CA 65: 15179f. A series of the title compds. (I) was prepared Unusual chemical behavior of some *I*, as instability of strong alkali to remove *Ac* group from *I* (*X*<sub>1</sub> = *X*<sub>2</sub> = *X*<sub>4</sub> = *H*, *X*<sub>3</sub> = *Br*, *R*<sub>1</sub> = *Ac*, *R*<sub>2</sub> = *H*), was discussed in terms of electron intermol. interactions, called *p,p*-electron interactions, which promoted homolytic, rather than heterolytic chemical attack. A solution of *I* (*X*<sub>1</sub> = *X*<sub>2</sub> = *X*<sub>3</sub> = *X*<sub>4</sub> = *H*, *R*<sub>1</sub> = *R*<sub>2</sub> = *Ac*) (II), *m*. 187°, which was prepared earlier Elektron. Khim. Kardiol, 1, 189(1964); 2, 89(1965); 3, 117(1966) in 100 ml. CCl<sub>4</sub> was saturated with HCl gas to give 40% *I* (*X*<sub>1</sub> = *X*<sub>2</sub> = *X*<sub>4</sub> = *H*, *X*<sub>3</sub> = *Cl*, *R*<sub>1</sub> = *R*<sub>2</sub> = *Ac*) (III), *m*. 171°. Boiling III 14 hrs. with 22% alc. NaOH solution gave 45% *I* (*X*<sub>1</sub> = *X*<sub>2</sub> = *X*<sub>4</sub> = *H*, *X*<sub>3</sub> = *Cl*, *R*<sub>1</sub> = *Ac*, *R*<sub>2</sub> = *H*) (IV), *m*. 179°. Action of Ac<sub>2</sub>O on IV gave III and BzCl gave *I* (*X*<sub>1</sub> = *X*<sub>2</sub> = *X*<sub>4</sub> = *H*, *X*<sub>3</sub> = *Cl*, *R*<sub>1</sub> = *Ac*, *R*<sub>2</sub> = *Bz*) (V), *m*. 210°. Similarly, chlorination of *I* (*X*<sub>1</sub> = *X*<sub>2</sub> = *X*<sub>3</sub> = *H*, *R*<sub>1</sub> = *Ac*, *R*<sub>2</sub> = *Bz*) with HCl gas gave V proving attachment of *Ac* group to anilino N in IV. Nitration of 3 g. II in 10 ml. H<sub>2</sub>SO<sub>4</sub> 3 ml. AcOH solution at 4-5° by a slow addition of 4 ml. H<sub>2</sub>SO<sub>4</sub> and 4 ml. 70% HNO<sub>3</sub>, followed by keeping 4 hrs. at room temperature gave 38% *I* (*X*<sub>1</sub> = *X*<sub>2</sub> = *X*<sub>4</sub> = *H*, *X*<sub>3</sub> = NO<sub>2</sub>, *R*<sub>1</sub> = *R*<sub>2</sub> = *Ac*) (VI), *m*. 173° (alc.). Hydrolysis of VI according to Zalukaev (CA 59: 5973b) gave 6-nitroquinoline, *m*. 172°, and PhNH<sub>2</sub>. Longer nitration time of II (overnight standing) gave *I* (*X*<sub>1</sub> = *X*<sub>4</sub>, *X*<sub>2</sub> = *X*<sub>3</sub> = NO<sub>2</sub>, *R*<sub>1</sub> = *R*<sub>2</sub> = *Ac*), *m*. 234-5° (alc.), which on acid hydrolysis gave 2-methyl-6-nitroquinoline, *m*. 172°, and *p*-O<sub>2</sub>NCH<sub>2</sub>NH<sub>2</sub>, *m*. 147°. Attempted deacylation of known *I* (*X*<sub>1</sub> = *X*<sub>2</sub> = *H*, *X*<sub>3</sub> = *X*<sub>4</sub> = *Br*, *R*<sub>1</sub> = *Ac*, *R*<sub>2</sub> = *H*) (VII), *m*. 186°, by boiling 50 hrs. in 20% alc. NaOH gave only VII.  
 IT 17117-38-3P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 17117-38-3 CA  
 CN Acetamide, N-(1-benzoyl-6-chloro-1,2,3,4-tetrahydro-2-methyl-4-quinolinyl)-N-phenyl- (9CI) (CA INDEX NAME)



L4 ANSWER 15 OF 18 CA COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 65:1601 CA

ORIGINAL REFERENCE NO.: 65:15179a-9

TITLE: Bimolecular alkylidene aryl amines. X. Intramolecular donor-acceptor interaction in 2-methyl-4-anilino-1,2,3,4-tetrahydroquinoline  
 AUTHOR(S): Zalukaev, L. P.; Spitsyna, L. Ya.  
 CORPORATE SOURCE: State Univ., Voronezh  
 SOURCE: Zhurnal Obshchei Khimii (1966), 36(6), 1052-5  
 CODEN: ZOKHAI; ISSN: 0044-460X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Russian

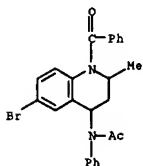
AB cf. CA 62, 3908c. 1-Benzoyl-2-methyl-4-(4-bromoanilino)-1,2,3,4-tetrahydroquinoline (I), m. 220°, and Br in CHCl<sub>3</sub> gave in 3 hrs. 56% 2,4-dibromoanilino analog, m. 239°, which heated 10 hrs. with alc. KOH gave 63.5% product, m. 140°, which with Ac<sub>2</sub>O overnight gave 75% N-acetyl-2-methyl-4-(2,4-dibromoacetylanilino)-1,2,3,4-tetrahydroquinoline (II), m. 163°. I heated on a steam bath with 25% alc. KOH 15 hrs. and the product treated 5 hrs. with Ac<sub>2</sub>O gave II and the analogous isomer, m. 186-7°, of the diacetyl derivative. Alc. KOH and N-acetyl-2-methyl-4-(acetylanilino)-6-bromo-1,2,3,4-tetrahydroquinoline in 10 hrs. heating gave 56% 2-methyl-4-(acetylanilino)-6-bromo-1,2,3,4-tetrahydroquinoline, m. 199°, which was unchanged in 60 hrs. heating with EtONa-EtOH and gave a monobenzoyl derivative, m. 219°. The results confirm the existence of intramol. complexes with charge transfer among tetrahydroquinoline derivs. involving one electron. Since bromination gave only the 6-bromo derivative, without any

4- or 4,6-dibromo derivs., the strong mutual interaction of the aromatic rings is confirmed.

IT 13125-49-0, Quinaldine, 1-benzoyl-6-bromo-1,2,3,4-tetrahydro-4-(N-phenylacetamido)- (preparation of)

RW 13125-49-0 CA

CN Acetamide, N-(1-benzoyl-6-bromo-1,2,3,4-tetrahydro-2-methyl-4-quinolinyl)-N-phenyl- (9CI) (CA INDEX NAME)



L4 ANSWER 17 OF 18 CA COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 59:54789 CA

ORIGINAL REFERENCE NO.: 59:9973b-d

TITLE: Bimolecular alkylidenearylamines. VIII. Synthesis and bromination of 2-methyl-4-N-acetylanilino-1,2,3,4-tetrahydroquinoline  
 AUTHOR(S): Zalukaev, L. P.; Spitsyna, L. Ya.  
 SOURCE: Zhurnal Obshchei Khimii (1963), 33(6), 1956-8  
 CODEN: ZOKHAI; ISSN: 0044-460X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Unavailable

GI For diagram(s), see printed CA Issue.

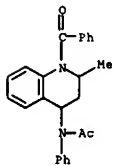
AB cf. CA 56, 15481e. 2-Methyl-1-acetyl-4-N-acetylanilino-1,2,3,4-tetrahydroquinoline (28.8 g.) mixed with 86 cc. 10% alc. KOH and the mixture left 1 day and heated 10 hrs. on the water bath gave 16.8 g. 2-methyl-4-Nacetylanilino-1,2,3,4-tetrahydroquinoline (I), m. 161° (alc.), 1-benzoyl derivative m. 183°. Br (4 g.) in CHCl<sub>3</sub> was added to 5.5 g. I dissolved in 50 cc. CHCl<sub>3</sub>, the obtained oil heated to remove CHCl<sub>3</sub>, washed with H<sub>2</sub>O and NaHCO<sub>3</sub> solution with a little alc., and the resulting oil solidified quickly to give 5.6 g. 2-methyl-6,8-dibromo-4-N-acetylanilino-1,2,3,4-tetrahydroquinoline (II), m. 186° (alc.). II (8 g.) boiled 5 hrs. with 50% H<sub>2</sub>SO<sub>4</sub>, the mixture cooled, neutralized,

distilled with steam, the obtained solution extracted with ether, the ethereal solution dried with KOH, ether distilled, and the residue dissolved in MeOH gave 2-methyl-6,8-dibromoquinoline, m. 100°; picrate m. 155° (MeOH).

IT 95868-01-2, Quinaldine, 1-benzoyl-1,2,3,4-tetrahydro-4-(N-phenylacetamido)- (preparation of)

RW 95868-01-2 CA

CN Acetamide, N-(1-benzoyl-1,2,3,4-tetrahydro-2-methyl-4-quinolinyl)-N-phenyl- (9CI) (CA INDEX NAME)



L4 ANSWER 16 OF 18 CA COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 62:22149 CA

ORIGINAL REFERENCE NO.: 62:3908c-e

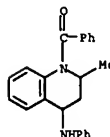
TITLE: Bimolecular alkylidenearylamines. IX. Steric structure of 2-methyl-4-anilino-1,2,3,4-tetrahydroquinolines  
 AUTHOR(S): Zalukaev, L. P.; Spitsyna, L.  
 CORPORATE SOURCE: State Univ., Voronezh  
 SOURCE: Zhurnal Obshchei Khimii (1964), 34(10), 3392-5  
 CODEN: ZOKHAI; ISSN: 0044-460X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Unavailable

AB cf. CA 59, 9973b. 2-Methyl-4-anilino-1,2,3,4-tetrahydroquinoline (I), m. 126°, and BzCl in 10% aqueous NaOH at 10-12° gave 1-Bz derivative (II), m. 217-18°; this in Schotten-Baumann benzoylation in 6-7 hrs. gave the di-Bz compound (III), m. 200-1°. The latter heated 5 hrs. with alc. KOH gave II, while in 8 hrs. I was formed. III was brominated in CHCl<sub>3</sub> to C<sub>30</sub>H<sub>23</sub>BrN<sub>2</sub>O<sub>2</sub>, m. 182°, which heated with 50% H<sub>2</sub>SO<sub>4</sub>, steam-distilled, and treated with Ac<sub>2</sub>O to remove PhNH<sub>2</sub> gave 6-bromoquinaldine, m. 98°. Benzoylation of isomer (IV) of I, m. 86°, in 10% NaOH with BzCl at 10-12° gave III; similar reaction at 30-5° gave II and some BzNHPh. BzCl and isomer (V) of I, m. 114°, in 10% NaOH at 15-16° gave III; the same III formed from I isomer (VI), m. 78°. The results showed that I is 2e,4a form with axial H-N group at the quinoline nucleus which can form an intramol. H bridge to N. The equatorial H of 2e,4a form can readily pass into the axial position with energy gain owing to H bridge formation. V therefore is 2e,4e form with equatorial position of H at the nuclear N. VI has equatorial position of the H atom. Whether the conversion of IV into I occurs through VI is not established. I is more stable than IV, however.

IT 857-45-4, Quinaldine, 4-anilino-1-benzoyl-1,2,3,4-tetrahydro- (conformation of)

RW 857-45-4 CA

CN Quinaldine, 4-anilino-1-benzoyl-1,2,3,4-tetrahydro- (7CI, 8CI) (CA INDEX NAME)



L4 ANSWER 18 OF 18 CA COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 48:56687 CA

ORIGINAL REFERENCE NO.: 48:10024d-e

TITLE: Bimolecular alkylidenearylamines. II. Structure of the products of bromination of 1-benzoyl-2-methyl-4-anilino-1,2,3,4-tetrahydroquinoline  
 AUTHOR(S): Zalukaev, L.  
 SOURCE: Latvijas PSR Zinatnu Akademijas Vestis (1951) 469-72  
 CODEN: LZAVAI; ISSN: 0132-6422  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Unavailable

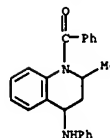
AB In previous work it was shown that bimol. ethylidenearylamine, m. 126°, is trans-2-methyl-4-anilino-1,2,3,4-tetrahydroquinoline and not trans-1,3-dianilino-1-butene. Its Mono-Bz derivative (I) (3 g.) in CHCl<sub>3</sub>

with 1 g. Br gave 3 g. colorless solid, m. 160-2° (after exposure to air), which is a HBr salt, since with NaHCO<sub>3</sub> it liberates CO<sub>2</sub> from the latter, yielding a base C<sub>23</sub>H<sub>21</sub>ON<sub>2</sub>Br, m. 211-12°. This refluxed 5 h. with 1:1 H<sub>2</sub>SO<sub>4</sub> gave quinaldine and p-BrC<sub>6</sub>H<sub>4</sub>NH<sub>2</sub> (isolated as the Ac derivative). I (6.5 g.) with 3.05 g. Br gave C<sub>23</sub>H<sub>20</sub>N<sub>2</sub>Br<sub>2</sub>, m. 239°, forming a HBr salt, m. 180-6°; hydrolysis of this with H<sub>2</sub>SO<sub>4</sub> and treatment with BzCl gave quinaldine and 2,4-Br<sub>2</sub>C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub> (Bz derivative, m. 133-4°).

IT 857-45-4, Quinaldine, 4-anilino-1-benzoyl-1,2,3,4-tetrahydro- (and derivs.)

RW 857-45-4 CA

CN Quinaldine, 4-anilino-1-benzoyl-1,2,3,4-tetrahydro- (7CI, 8CI) (CA INDEX NAME)



10/678,872

=> d his

(FILE 'HOME' ENTERED AT 15:09:10 ON 26 APR 2005)

FILE 'REGISTRY' ENTERED AT 15:10:01 ON 26 APR 2005

L1 STRUCTURE UPLOADED

L2 37 S L1 SAM

L3 822 S L1 FULL

FILE 'CA' ENTERED AT 15:10:39 ON 26 APR 2005

L4 18 S L3

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---Logging off of STN---

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Executing the logoff script...

=> LOG Y

STN INTERNATIONAL LOGOFF AT 15:11:06 ON 26 APR 2005